



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBSC7048-P-9
Job Sheet 172197



Part No: RBSC7048-P-9

Job Qty: 5 ea

DAS

21

9-86

Part Name: Bushing



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/13/18

Job Tracking No:

Due Date: 2/19/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBSC7048-P-9 REV:6 IPP REV A 18.02.12 NEW ISSUE RQ VERIFIED BY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	5 Ea		2/17/18	0.00	0.00	Start Up Machining-3	9min	JB 18-05-01
110	CNC Lathe	5 pcs		2/19/18	0.00	0.25	MORI SL-154	1'	JB 18-05-01
120	QC	5 pcs		2/19/18	0.00	0.00	QC2 Machining-4	1'	JB 18-05-01
130	QC	5 pcs		2/19/18	0.00	0.00	QC8 Machining-4		JB 18-05-03
140	Packaging	5 pcs		2/19/18	0.00	0.00	Packaging3-1		MAY 03 2018
150	QC21-SA	5 Ea		2/19/18	0.00	0.00	QC21		GA137

Part Op Descriptions: 110 - 1-Machine as per DWG. FB 895 FOLIO REV: _____ DWG REV: _____ 2-Debur

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-BRONZE-C63000-R0.750	Bronze C63000 Round Bar 0.750"	.1650 ft (.033 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-BRONZE-C63000-R0.750	0	0	0

Part Specifications

Specifications could not be found.

DOA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

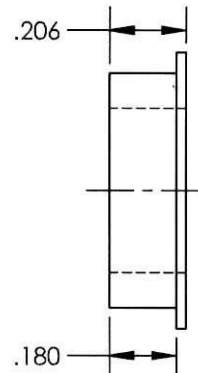
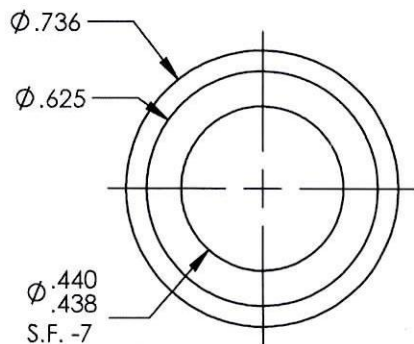
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER :					

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D TOOL # RBSC412-010-182-103-P TO RBSC7188-P TO CLARIFY TOOLING IDENTIFICATION	11/6/09	WP	DW
2		ADDED NEW BRG. CUTTER RBSC7048-P FOR BEARING #406-312-100-101 PER E.B.	5/2/11	RJC	



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 172197

ML5
18-02-13

(-9)

BUSHING

DART AEROSPACE	
TITLE RBSC7###-P SERIES PORTABLE BEARING CUTTERS FOR BELL BEARINGS	
DWG NO. RBSC7###-P-9	REV 6
MAT'L BRONZE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX ± .005 FRACTIONS ± 1/8
FINISH	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125/✓
DRAWN BY: MACKOVJAK	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: DUERFELDT	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	
SCALE 2:1	DATE 7/10/2015 SHEET 6 OF 7

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																												
Date : _____	Step #: _____	MRB (QSI042) Approval 		Completed By 																																																										
Description Container No: S067129 Part: RBSC7048 - P-9 Job No: 172197 Serial No/Batch: S067129 Revision: 6 Inspector:		Lead hand / Supervisor Approval Verification 																																																												
QC / QA Coordinator Approval 		Root Cause <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; vertical-align: top;"> <table style="width:100%; border-collapse: collapse;"> <tr><td>Environment</td><td>☐</td></tr> <tr><td>Design</td><td>☐</td></tr> <tr><td>Doc/Data</td><td>☐</td></tr> <tr><td>Equip/Tooling</td><td>☐</td></tr> <tr><td>Handling/Pre</td><td>☐</td></tr> <tr><td>Material</td><td>☐</td></tr> <tr><td>Internal Transport</td><td>☐</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td></tr> <tr><td>LOA</td><td>☐</td></tr> <tr><td>Substation</td><td>☐</td></tr> <tr><td>Past Expiry Date</td><td>☐</td></tr> <tr><td>Misidentified</td><td>☐</td></tr> </table> </td> <td style="width:50%; vertical-align: top;"> <table style="width:100%; border-collapse: collapse;"> <tr><td>No Re-vericator</td><td>☐</td></tr> <tr><td>Operator</td><td>☐</td></tr> <tr><td>Offset/Setup</td><td>☐</td></tr> <tr><td>Supplier</td><td>☐</td></tr> <tr><td>Training</td><td>☐</td></tr> <tr><td>Use for Testing</td><td>☐</td></tr> <tr><td>Poor Information</td><td>☐</td></tr> <tr><td>Rushing</td><td>☐</td></tr> <tr><td>Product Improvement</td><td>☐</td></tr> <tr><td>Process Improvement</td><td>☐</td></tr> <tr><td>Manufacturing Process</td><td>☐</td></tr> <tr><td>Past Due</td><td>☐</td></tr> </table> </td> </tr> </table>				<table style="width:100%; border-collapse: collapse;"> <tr><td>Environment</td><td>☐</td></tr> <tr><td>Design</td><td>☐</td></tr> <tr><td>Doc/Data</td><td>☐</td></tr> <tr><td>Equip/Tooling</td><td>☐</td></tr> <tr><td>Handling/Pre</td><td>☐</td></tr> <tr><td>Material</td><td>☐</td></tr> <tr><td>Internal Transport</td><td>☐</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td></tr> <tr><td>LOA</td><td>☐</td></tr> <tr><td>Substation</td><td>☐</td></tr> <tr><td>Past Expiry Date</td><td>☐</td></tr> <tr><td>Misidentified</td><td>☐</td></tr> </table>	Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	<table style="width:100%; border-collapse: collapse;"> <tr><td>No Re-vericator</td><td>☐</td></tr> <tr><td>Operator</td><td>☐</td></tr> <tr><td>Offset/Setup</td><td>☐</td></tr> <tr><td>Supplier</td><td>☐</td></tr> <tr><td>Training</td><td>☐</td></tr> <tr><td>Use for Testing</td><td>☐</td></tr> <tr><td>Poor Information</td><td>☐</td></tr> <tr><td>Rushing</td><td>☐</td></tr> <tr><td>Product Improvement</td><td>☐</td></tr> <tr><td>Process Improvement</td><td>☐</td></tr> <tr><td>Manufacturing Process</td><td>☐</td></tr> <tr><td>Past Due</td><td>☐</td></tr> </table>	No Re-vericator	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; vertical-align: top;"> Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width:33%; vertical-align: top;"> Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="width:33%; vertical-align: top;"> Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> </tr> </table>				Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐
<table style="width:100%; border-collapse: collapse;"> <tr><td>Environment</td><td>☐</td></tr> <tr><td>Design</td><td>☐</td></tr> <tr><td>Doc/Data</td><td>☐</td></tr> <tr><td>Equip/Tooling</td><td>☐</td></tr> <tr><td>Handling/Pre</td><td>☐</td></tr> <tr><td>Material</td><td>☐</td></tr> <tr><td>Internal Transport</td><td>☐</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td></tr> <tr><td>LOA</td><td>☐</td></tr> <tr><td>Substation</td><td>☐</td></tr> <tr><td>Past Expiry Date</td><td>☐</td></tr> <tr><td>Misidentified</td><td>☐</td></tr> </table>	Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	<table style="width:100%; border-collapse: collapse;"> <tr><td>No Re-vericator</td><td>☐</td></tr> <tr><td>Operator</td><td>☐</td></tr> <tr><td>Offset/Setup</td><td>☐</td></tr> <tr><td>Supplier</td><td>☐</td></tr> <tr><td>Training</td><td>☐</td></tr> <tr><td>Use for Testing</td><td>☐</td></tr> <tr><td>Poor Information</td><td>☐</td></tr> <tr><td>Rushing</td><td>☐</td></tr> <tr><td>Product Improvement</td><td>☐</td></tr> <tr><td>Process Improvement</td><td>☐</td></tr> <tr><td>Manufacturing Process</td><td>☐</td></tr> <tr><td>Past Due</td><td>☐</td></tr> </table>	No Re-vericator	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐													
Environment	☐																																																													
Design	☐																																																													
Doc/Data	☐																																																													
Equip/Tooling	☐																																																													
Handling/Pre	☐																																																													
Material	☐																																																													
Internal Transport	☐																																																													
Tribal Knowledge	☐																																																													
LOA	☐																																																													
Substation	☐																																																													
Past Expiry Date	☐																																																													
Misidentified	☐																																																													
No Re-vericator	☐																																																													
Operator	☐																																																													
Offset/Setup	☐																																																													
Supplier	☐																																																													
Training	☐																																																													
Use for Testing	☐																																																													
Poor Information	☐																																																													
Rushing	☐																																																													
Product Improvement	☐																																																													
Process Improvement	☐																																																													
Manufacturing Process	☐																																																													
Past Due	☐																																																													
Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐																																																												
OTHER : _____		<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; vertical-align: top;"> Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐ </td> </tr> </table>				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																																																								
Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																																																														